AMENDMENTS TO THE CLAIMS

1-26. (Canceled)

27. (Previously Presented) A light-emitting device, comprising:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region so that, during use of the light-emitting device, light generated by the light-generating region can emerge from the light-emitting device via a surface of the first layer,

wherein the light-emitting device has an edge which is at least about one millimeter long, and the light-emitting device is designed so that an extraction efficiency of the light-emitting device is substantially independent of the length of the edge; and

wherein the surface of the first layer has a dielectric function that varies spatially according to a pattern with an ideal lattice constant and a detuning parameter with a value greater than zero.

28. (Original) The light-emitting device of claim 27, wherein the length of the edge is at least about 1.5 millimeters.

29. (Original) The light-emitting device of claim 27, wherein the length of the edge is at least about two millimeters.

30. (Original) The light-emitting device of claim 27, wherein the length of the edge is at least about 2.5 millimeters.

31. (Original) The light-emitting device of claim 27, wherein the length of the edge is at least about three millimeters.

32. (Original) The light-emitting device of claim 27, wherein the light-emitting device includes at least one additional edge having a length of at least about one millimeter.

33. (Original) The light-emitting device of claim 27, wherein at least about 90% of the total amount of light generated by the light-generating region that emerges from the light-emitting device emerges from the light-emitting device via the surface of the first layer.

34. (Original) The light-emitting device of claim 27, wherein at least about 95% of the total amount of light generated by the light-generating region that emerges from the light-emitting device emerges from the light-emitting device via the surface of the first layer.

35. (Original) The light-emitting device of claim 27, wherein the multi-layer stack of materials comprises a multi-layer stack of semiconductor materials.

36. (Original) The light-emitting device of claim 35, wherein the first layer comprises a layer of n-doped semiconductor material, and the multi-layer stack further includes a layer of p-doped semiconductor material.

37. (Original) The light-emitting device of claim 36, wherein the light-generating region is between the layer of n-doped semiconductor material and the layer of p-doped semiconductor material.

38. (Original) The light-emitting device of claim 27, further comprising a support that supports the multi-layer stack of materials.

39. (Original) The light-emitting device of claim 38, further comprising a layer of reflective material that is capable of reflecting at least about 50% of light generated by the light-generating region that impinges on the layer of reflective material, the layer of reflective material being between the support and the multi-layer stack of materials.

40. (Original) The light-emitting device of claim 39, wherein the first layer comprises a layer of an n-doped material, the multi-layer stack of materials further includes a layer of p-doped

material, and a distance between the layer of p-doped semiconductor material and the layer of reflective material is less than a distance between the layer of n-doped semiconductor material and the layer of reflective material.

41. (Original) The light-emitting device of claim 40, further comprising a p-ohmic contact layer between the layer of p-doped material and the layer of reflective material.

42. (Original) The light-emitting device of claim 27, further including a current-spreading layer between the first layer and the light-generating region.

43. (Original) The light-emitting device of claim 27, wherein the multi-layer stack of materials comprise semiconductor materials.

44. (Original) The light-emitting device of claim 43, wherein the semiconductor materials are selected from the group consisting of III-V semiconductor materials, organic semiconductor materials and silicon.

45. (Previously Presented) The light-emitting device of claim 27, wherein the pattern does not extend into the light-generating region.

46. (Previously Presented) The light-emitting device of claim 27, wherein the pattern does not extend beyond the first layer.

47. (Previously Presented) The light-emitting device of claim 27, wherein the pattern extends beyond the first layer.

48. (Original) The light-emitting device of claim 27, further comprising electrical contacts configured to inject current into the light-emitting device.

49. (Original) The light-emitting device of claim 48, wherein the electrical contacts are configured to vertically inject electrical current into the light-emitting device.

50. (Original) The light-emitting device of claim 27, wherein the light-emitting device is selected from the group consisting of light-emitting diodes, lasers, optical amplifiers, and combinations thereof.

51. (Original) The light-emitting device of claim 27, wherein the light-emitting device comprises a light emitting diode.

52. (Original) The light-emitting device of claim 27, wherein the light-emitting device is selected from the group consisting of OLEDs, flat surface-emitting LEDs, HBLEDs, and combinations thereof.

53. (Original) The light-emitting device of claim 27, wherein the light-emitting device is in the form of a packaged light-emitting device.

54. (Original) The light emitting device of claim 27, wherein the light-emitting device is in the form of a packaged die.

55. (Canceled)

56. (Currently Amended) A light-emitting device, comprising:

multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region so that, during use of the light-emitting device, light generated by the light-generating region can emerge from the light-emitting device via a surface of the first layer,

wherein the light-emitting device has an edge which is at least about one millimeter long,

and the light-emitting device is designed so that an extraction efficiency of the light-emitting device is substantially independent of the length of the edge; and

wherein the first layer comprises a semiconductor material and a surface of the first layer has a dielectric function that varies spatially according to a nonperiodic pattern,

wherein the light emerging from the light-emitting device via the surface of the first layer is substantially incoherent.

57-59. (Canceled)

60. (Previously Presented) The light-emitting device of claim 27, wherein the surface of the first layer has features with a size of less than about $\lambda/5$, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

61-62. (Canceled)

63. (Previously Presented) The light emitting device of claim 56, wherein the nonperiodic pattern comprises a pattern selected from the group consisting of aperiodic patterns, Robinson patterns, and Amman patterns.

64. (Previously Presented) The light emitting device of claim 56, wherein the nonperiodic pattern comprises a quasicrystalline pattern.

65. (Previously Presented) The light-emitting device of claim 27, wherein the pattern comprises a plurality of holes.

66. (Previously Presented) The light-emitting device of claim 56, wherein the pattern comprises a plurality of holes.

67. (Previously Presented) The light-emitting device of claim 66, wherein the holes have a cross-sectional dimension of less than 190 nanometers.

68. (Previously Presented) The light-emitting device of claim 56, wherein the length of the edge is at least about three millimeters.

69. (Previously Presented) The light-emitting device of claim 56, wherein at least about 90% of the total amount of light generated by the light-generating region that emerges from the light-emitting device emerges from the light-emitting device via the surface of the first layer.

70. (Previously Presented) The light-emitting device of claim 56, wherein the multi-layer stack of materials comprises a multi-layer stack of semiconductor materials.

71. (Previously Presented) The light-emitting device of claim 56, wherein the first layer comprises a layer of n-doped semiconductor material, and the multi-layer stack further includes a layer of p-doped semiconductor material, and the light-generating region comprises a semiconductor material.

72. (Previously Presented) The light-emitting device of claim 56, wherein the pattern does not extend into the light-generating region.

73. (Previously Presented) The light-emitting device of claim 56, wherein the light-emitting device comprises a light-emitting diode.

74. (Previously Presented) The light-emitting device of claim 56, wherein the pattern is configured so that light emerging from the light-emitting device via the first surface is more collimated than a lambertian distribution of light.

75. (Currently Amended) A light-emitting device, comprising:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region so that, during use of the light-emitting device, light

generated by the light-generating region can emerge from the light-emitting device via a surface of the first layer,

wherein the light-emitting device has an edge which is at least about one millimeter long, and the light-emitting device is designed so that an extraction efficiency of the light-emitting device is substantially independent of the length of the edge; and

wherein the first layer comprises a semiconductor material and a surface of the first layer has a dielectric function that varies spatially according to a nonperiodic pattern comprising holes being devoid of material within a perimeter defined by the first layer.

76. (Previously Presented) The light-emitting device of claim 75, wherein the holes have a cross-sectional dimension of less than 190 nanometers.

77. (Previously Presented) The light-emitting device of claim 75, wherein the length of the edge is at least about three millimeters.

78. (Previously Presented) The light-emitting device of claim 75, wherein at least about 90% of the total amount of light generated by the light-generating region that emerges from the light-emitting device emerges from the light-emitting device via the surface of the first layer.

79. (Previously Presented) The light-emitting device of claim 75, wherein the multi-layer stack of materials comprises a multi-layer stack of semiconductor materials.

80. (Previously Presented) The light-emitting device of claim 75, wherein the first layer comprises a layer of n-doped semiconductor material, and the multi-layer stack further includes a layer of p-doped semiconductor material, and the light-generating region comprises a semiconductor material.

81. (Previously Presented) The light-emitting device of claim 75, wherein the pattern does not extend into the light-generating region.

82. (Previously Presented) The light-emitting device of claim 75, wherein the light-emitting device comprises a light-emitting diode.

83. (Previously Presented) The light-emitting device of claim 75, wherein the pattern is configured so that light emerging from the light-emitting device via the first surface is more collimated than a lambertian distribution of light.

84. (Currently Amended) A light-emitting device, comprising:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region so that, during use of the light-emitting device, light generated by the light-generating region can emerge from the light-emitting device via a surface of the first layer,

wherein the light-emitting device has an edge which is at least about one millimeter long, and the light-emitting device is designed so that an extraction efficiency of the light-emitting device is substantially independent of the length of the edge; and

wherein the first layer comprises a semiconductor material and a surface of the first layer has a dielectric function that varies spatially according to a nonperiodic pattern comprising a plurality of non-concentric holes.

85. (Previously Presented) The light emitting device of claim 84, wherein the holes have a cross-sectional dimension of less than 190 nanometers.

86. (Previously Presented) The light-emitting device of claim 84, wherein the length of the edge is at least about three millimeters.

87. (Previously Presented) The light-emitting device of claim 84, wherein at least about 90% of the total amount of light generated by the light-generating region that emerges from the light-emitting device emerges from the light-emitting device via the surface of the first layer.

88. (Previously Presented) The light-emitting device of claim 84, wherein the multi-layer stack of materials comprises a multi-layer stack of semiconductor materials.

89. (Previously Presented) The light-emitting device of claim 84, wherein the first layer comprises a layer of n-doped semiconductor material, and the multi-layer stack further includes a layer of p-doped semiconductor material, and the light-generating region comprises a semiconductor material.

90. (Previously Presented) The light-emitting device of claim 84, wherein the pattern does not extend into the light-generating region.

91. (Previously Presented) The light-emitting device of claim 84, wherein the light-emitting device comprises a light-emitting diode.

92. (Previously Presented) The light-emitting device of claim 84, wherein the pattern is configured so that light emerging from the light-emitting device via the first surface is more collimated than a lambertian distribution of light.

93. (Currently Amended) A light-emitting device, comprising:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region so that, during use of the light-emitting device, light generated by the light-generating region can emerge from the light-emitting device via a surface of the first layer,

wherein the light-emitting device has an edge which is at least about one millimeter long, and the light-emitting device is designed so that an extraction efficiency of the light-emitting device is substantially independent of the length of the edge; and

wherein the first layer comprises a semiconductor material and a surface of the first layer has a dielectric function that varies spatially according to a nonperiodic pattern,

wherein each layer between the light-generating region and the first layer is substantially non-reflective.

94. (Previously Presented) The light emitting device of claim 93, wherein the pattern comprises a plurality of holes.

95. (Previously Presented) The light emitting device of claim 94, wherein the holes have a cross-sectional dimension of less than 190 nanometers.

96. (Previously Presented) The light-emitting device of claim 93, wherein the length of the edge is at least about three millimeters.

97. (Previously Presented) The light-emitting device of claim 93, wherein at least about 90% of the total amount of light generated by the light-generating region that emerges from the light-emitting device emerges from the light-emitting device via the surface of the first layer.

98. (Previously Presented) The light-emitting device of claim 93, wherein the multi-layer stack of materials comprises a multi-layer stack of semiconductor materials.

99. (Previously Presented) The light-emitting device of claim 93, wherein the first layer comprises a layer of n-doped semiconductor material, and the multi-layer stack further includes a layer of p-doped semiconductor material, and the light-generating region comprises a semiconductor material..

100. (Previously Presented) The light-emitting device of claim 93, wherein the pattern does not extend into the light-generating region.

101. (Previously Presented) The light-emitting device of claim 93, wherein the light-emitting device comprises a light-emitting diode.

102. (Previously Presented) The light-emitting device of claim 93, wherein the pattern is configured so that light emerging from the light-emitting device via the first surface is more collimated than a lambertian distribution of light.